THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE (SHRI PRITHVIRAJ CHAVAN): (a) The analysis of the data collected by one of the scientific instruments on-board the Chandrayaan-I spacecraft, namely the Moon Mineralogy Mapper, has shown the presence of water (H_2O) and Hydroxyl (OH) molecules on the lunar surface.

(b) This discovery has been made under the Chandrayaan-I project of India. The broad objectives of the Chandrayaan-I project have been:-

- to carry out high resolution imaging/mapping of the lunar surface;
- to study the broad mineralogical composition of the moon, including detection of water if present; and
- contributing to understanding the evolution of the moon.

(c) The expenditure of the Chandrayaan-I project was Rs. 386.00 Crores, which includes the cost of associated ground infrastructure.

(d) In the coming ten years, further mapping of the lunar surface, in-situ experiments over selected areas of the lunar surface and further planetary explorations are being considered. These researches will benefit the practical world by way of providing scientific understanding on the evolution of the Earth and the solar system and also indicating the possible avenues for planetary exploitation.

Termination of Chandrayaan-I

1627. SHRI ELAVARASAN: Will the PRIME MINISTER be pleased to state:

(a) the reasons for early termination of the Chandrayaan-I mission;

(b) whether error in moon temperature circulation led to failure as the scientists assumed the temperature at 100 km above the moon surface would be around 75 degree Celsius but it was much more the 75 degree Celsius; and

(c) if so, the details thereof?

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE (SHRI PRITHVIRAJ CHAVAN): (a) The termination of the Chandrayaan-I mission was due to the failure of certain critical components onboard the spacecraft.

(b) Yes, Sir.

(c) The spacecraft subsystems were designed to withstand a maximum temperature of 75 degree Celsius, specifically considering the lunar environment. However, the temperature inside the spacecraft had supposedly exceeded beyond this limit, leading to failure of certain critical components. Consequent upon this, the Chandryaan-I spacecraft lost communication link with the ground control centre, resulting in the termination of the mission.